

transmitting power to the round of ammunition through the firing pin.

86. (New - Pending). The method of claim 85 and further comprising increasing the voltage from the voltage supply to a level sufficient to initiate the firing of the round of ammunition, in a voltage increasing means, and isolating the voltage supply from the voltage increasing means.

87. (New - Pending). The method of claim 86 and further comprising isolating the voltage increasing means from the firing pin.

89. (New - Pending) The method of claim 85 and further comprising detecting viability of the round of ammunition in said chamber.

90. (New - Pending). The method of claim 85 and further comprising initiating a sleep mode for the firearm to place the firearm in a nonoperative condition.

#### REMARKS

Original claims 1 – 9, 11 – 32, 34, 35, and 37 – 40, as amended above, remain pending in the reissue application. Original claims 10, 33 and 36 have now been cancelled. New claims 41 – 43, 45-61, 64 – 69, 75, 85 – 87, and 89 – 90 as previously submitted have been added to and are now pending in the present Application for Reissue Patent in accordance with the provisions of 37 C.F.R. § 1.173 and MPEP § 1453. (37 C.F.R. § 1.121(b)(2)(ii)). New claims 44, 62, 63, and 70 –

74, as presented in the response filed on October 26, 2000, and new claims 76 – 84 and 88, presented in the response filed May 11, 2001 have been cancelled. The pending claims of this application therefore are now original claims 1 – 9, 11 – 32, 34, 35, and 37 – 40, as now amended, and new claims 41-43, 45-61, 64 – 69, 75, 85- 87, and 89 – 90.

Pursuant to 37 C.F.R. §§ 1.121(b)(1) and 1.173, amendments to the specification have been made as noted above. These amendments to the specification have made to clarify the description of the present invention. No new matter has been added. Support for the amendments to the specification is found in the specification, drawings and claims as originally filed in U.S. Patent No. 5,755,056, including:

- The amendments made at Col. 1, ll. 35 – 50; Col. 2, ll. 29 – 31 were made to further clarify the specification and support therefor, can be found at Col. 3, ll. 31 – 36, ll. 55 – 58.
- Col. 2, ll. 66 – 67; Col. 3, ll. 1 – 9; Col. 3, ll. 17 – 18; and Col. 3, ll. 21 – 24 reflect amendments made to include new figures 1A, 2A, 3A, 4A, 8A, 10A, and 11A, which have been added with this amendment.
- The amendments made at Col. 3, ll. 31 – 36; Col. 7, ll. 1 – 6 were made to further clarify the specification and support therefor, can be found at Col. 3, ll. 31 – 36, ll. 55 – 58.
- The amendments made in Col. 7, ll. 7 – 21 were made to further clarify the specification and support therefore, can be found in Col. 3, ll. 31 – 36, ll. 55 – 58. Additional Amendments made to this paragraph refer to the additional figures 1A, 2A, 3A, 10A, and 11A.

- Col. 7, l. 54 – Col. 8, l. 2 – support for this amendment can be found in Col. 1, ll. 58 – 62, Col. 12, ll. 5 – 6, and Col. 13, ll. 18 – 22.
- Col. 9, l. 23 – 32 – support is found in Figures 4 and 8 of the '056 patent, as well as in claims 2, 3, and 5 of the '056 patent as issued, and at Col. 8, ll. 45 – 52.
- Col. 11, l. 66 – Col. 12, l. 5 – such amendments were made simply to further clarify the disclosure, and are further supported at Col. 3, ll. 31 – 36, ll. 55 – 58 of the specification.
- Col. 12, ll. 20 – 35 – support for this amendment can be found in claim 31 of the '056 patent, as originally issued.

Pursuant to 37 C.F.R. 1.173 and MPEP §1411, a cut up copy of the patent as issued, with only a single Column of the patent mounted to a sheet of paper was previously submitted with the Application for Reissue Patent as filed.

Pursuant to 37 CFR 1.178 an Offer to Surrender the Original Patent, executed by the Assignee of Record has previously been submitted.

#### **A. Claim Amendments**

Pursuant to the provisions of 37 C.F.R. § 1.121(b)(2)(iii), Applicants hereby identify support for the amendments made to original, pending Claims 1, 2, 3, 5, 14, 15, 19 – 21, 25, 30, 31, 38, 39 and 40, and new, pending claims 41 – 43, 45 – 61, 64 – 69, 75, 85 – 87, and 89 - 90 of the reissue application as set forth in the specification of the above-identified patent as issued:

Claim 1 has been amended to remove the discussion in the preamble of the movable bolt assembly, voltage increasing means, means for electronically detecting the presence of a round

ammunition within the chamber of the barrel, means for monitoring the capacity of the voltage supply means, and the discussion of the firing pin including forward conductive end and a rearward conductive area. This language was originally present in the claims of the '056 patent as issued, specifically original claim 1, which therefore provides necessary support for this amendment, but was not required for patentability of the claims over the cited art. Additional support for claim 1 is found in the discussion in the specification given at Column 7, Line 1 - Column 8, Line 57.

Claim 2 has been amended to affirmatively claim a bolt assembly as an additional limitation to further define the invention recited by Claim 1, as now amended. Support for this amendment is found in original claims 1-2 of the '056 patent as issued, and in the specification and drawings, including at Column 7, Lines 1-21 and Column 8, Line 23-44.

Claim 3 has been amended in view of the issues raised in the Official Action to delete the references to the firing pin assembly and trigger assembly and clarify the relationship of the firing pin plug and firing pin spring with respect to the firing pin. Support for this claim is found in claim 3 of the '056 patent as issued, in Fig. 8 of the drawings and at Column 8, lines 39 – 67.

Claim 5 has been amended to correct a minor defect raised in the Official Action with regard to the rejection of the claim under 35 U.S.C. Section 112, second paragraph. Claim 5, as now amended, claims the connection of the firing pin plug to the firing pin plunger and the position of the firing pin plunger insulator. Support for this claim is found in claim 5 of the '056 patent as issued, as well as being shown in the drawings and discussed in the specification at Column 8, Line 39-Column 9, Line 49.

Claim 14, as now amended, claims a means for electronically detecting the presence of a round of ammunition within the chamber of the barrel, including at least one electrode. Support for

this amendment is found in claims 1 and 14 of the '056 patent as issued, and in the specification at Column 7, Lines 54-56, Column 8, Lines 3-15, and Column 11, Lines 32-57.

Claim 15, as now amended, claims the firearm of claim 14 wherein the at least one electrode is the firing pin. Support for this amendment is found at Column 8, Lines 3 – 15 and in claim 15 of the '056 patent as issued.

Claims 19 and 21 have been amended to correct minor defects raised in the Official Action with regard to the rejection of the claims under 35 U.S.C. Section 112, second paragraph, while claim 20 has been amended to correct a minor claim dependency error in Claim 20 as issued. Claims 19, 20 and 21, as now amended, claim an electrical isolation means, with claim 19 claiming a modification of surface of the firing pin, claim 20 claiming the modification as comprising ion implantation, while with regard to claim 21, the electrical isolation means is stated as comprising an insulating coating. Support for these claims, as amended, is found in claims 19, 20 and 21 of the '056 patent as issued, as well as being shown in the drawings and discussed in the specification at Column 10, Lines 35-59.

Claim 25, as amended, claims a means for isolating the firing pin including an insulative sleeve about the firing pin. Support for this claim is found in claim 25 of the '056 patent as issued and in the specification at Column 10, Lines 35-59.

Claim 30 has been amended to claim the system control means adapted to isolate the firing pin when the safety mechanism is in the safe position by rejecting signals received from a trigger switch when the trigger is activated, and when the trigger is activated while the safety mechanism is switched from the safe position to the fire position. Support for this language is found in original

claims 1 and 30 of the '056 patent, as issued, and in the specification at Column 2, Lines 9-13, Column 4, Lines 24 – 45, and Column 5, Lines 16 – 34.

Claim 31 has been amended to delete the recitation of a secondary discharge path and now claim the system control being adapted to cause energy stored in the voltage increasing means to be diverted. Support for this claim as amended is found in original claim 31 of the '056 patent as issued and in the specification at Column 12, Lines 20 – 24.

Claim 38 has been amended in similar fashion to claim 1 to delete the discussion of the movable bolt assembly, the step of increasing the voltage from the voltage supply means, electronically detecting the presence of ammunition within the chamber, monitoring the capacity of the voltage supply means, and indicating the status for the firearm, and includes as an additional condition, an authorization switch being in an off position. Support for these amendments can be found in original claims 28 and 38 of the '056 patent as issued and in the specification of the patent at Column 2, Lines 28-63; Column 3, Line 54-Column 6, Line 48; and Column 12, Lines 20 - 36.

Claim 39 has been amended to further claim the method of claim 38, including detecting the presence of a round of ammunition in the chamber. Support for this claim can be found in original claim 38 of the '056 patent as issued, and in the specification at Column 7, Lines 54-56, Column 8, Lines 3-15 and Column 11, Lines 32-57.

Claim 40, as amended, claims the method of claim 38, including indicating the status of the firearm. Support for this claim is found in original claim 38 of the '056 patent as issued and in the drawings and the specification at Column 2, Line 62, and Column 4, Lines 5 – 23.

New claim 41 claims a means for electronically detecting the presence of a round of ammunition within the chamber of the barrel. Support for this claim is found in claims 1 and 14 of

the '056 patent as issued, and in the specification at Column 7, Lines 54-56, Column 8, Lines 3-15 and Column 11, Lines 32-57.

New claim 42 claims the method of claim 38, further including the step of monitoring the capacity of the voltage supply means. Support for this claim is found in claim 38 of the '056 patent as issued and in the specification at Column 3, Lines 28-63, Column 4, Lines 5-10 and Column 5, Line 35 – Column 6, Line 12.

New claim 43 claims the method or process recited by claim 38, with the additional step of preventing voltage from reaching the firing pin when the safety is in a safe position. Support for this claim is found in claim 38 of the '056 patent as issued, and in the specification of the '056 patent at Column 2, Lines 10-14 and 28-63, and Column 4, Lines 46 – Column 5, Line 16.

Previously submitted new claim 44, which claimed the process of claim 38, including preventing the system control from accepting a signal from the trigger assembly generated by an actuation of the trigger assembly when the safety is in a safe position has been deleted and its language added to claim 38. Support for this is found in claim 38 of the '056 patent as issued and in the specification at Column 2, Lines 28-63 and Column 4, Lines 5 – 65.

New claim 45 claims an indicator communicating with the system control means. Support for this claim is found in claim 1 of the '056 patent as issued, in the specification at Column 2, Lines 27-28, Column 4, Lines 10 – 23, and Column 7, Lines 27-40, and in the drawings.

New claim 46 claims a firing pin having a forward conducting end for transmitting voltage to a round of ammunition and a rearward conductive area movable into a position to receive the voltage. Support for this claim is found in claim 1 of the '056 patent as issued and in the

specification at Column 2, Lines 19-26 and at Column 9, Lines 14-22, Column 10, Lines 9 - 61 and in the drawings.

New claim 47 claims an electronic firearm having a barrel, chamber, firing pin, a voltage supply supplying power to the firing pin for firing a round of ammunition, and a system control for monitoring the firearm and controlling the power supply to the firing pin, and including a means for isolating the firing pin from the voltage supply to prevent firing pin from receiving power from the voltage supply, a trigger for signaling the system control to initiate firing of a round of ammunition, a firearm safety mechanism and an electronic safety operatively connected to the firearm safety mechanism and adapted to isolate the firing pin when the firearm safety is in a safe position by rejecting signals received from the trigger. Support for this claim is found in claim 1 of the '056 patent as issued, as well as in the drawings and in the specification at Column 1, Line 30 – Column 2, Line 27; Column 4, Line 46 – Column 5, Line 16; and Column 7, Line 1 – Column 8, Line 57, and Column 12, Lines 20 – 36.

New claim 48 claims a voltage increasing means for increasing voltage received from a voltage supply to a voltage sufficient to initiate the firing of the round of ammunition. Support for this claim is found in claim 1 of the '056 patent as issued in the specification at Column 1, Lines 55-56 and in Column 7, Line 54 – Column 8, Line 2, and in the drawings.

New claim 49 claims the switching means as isolating the voltage supply from the voltage increasing means. Support for this claim is found in claim 1 of the '056 patent as issued and in the specification at Column 1, Lines 58 – 62; Column 4, Lines 46 – 65; and Column 12, Lines 20 – 35.



New claim 50 claims the switching means as isolating the voltage increasing means from the firing pin. Support for this claim is found in claim 1 of the '056 patent as issued and in the specification at Column 1, Lines 58 – 63; Column 4, Lines 45 – 65; and Column 12, Lines 20 – 35.

New claim 51 claims an indicator communicating with the system control means. Support for this claim is found in claim 1 of the '056 patent as issued, in the specification at Column 2, Lines 27-28, Column 4, Lines 10 –23, and Column 7, Lines 27-40, and in the drawings.

New claim 52 claims a system authorization switch for controlling access to the firearm. Support for this claim is found in claims 28 and 29 of the '056 patent as issued, in the specification at Column 3, Line 63 – Column 4, Line 4 and Column 7, Lines 29-30, and in the drawings.

New claim 53 claims an insulating coating about the firing pin of the firearm. Support for this claim is found in claim 21 of the '056 patent as issued, in the drawings and in the specification at Column 10, Line 35-61.

New claim 54 claims an insulative sleeve mounted about the firing pin. Support for this claim is found in claim 25 as issued in the '056 patent, in the drawings and in the specification at Column 10 Lines 35-61.

New claim 55 claims a firearm safety mechanism and an electronic safety operatively connected to the firearm safety mechanism, adapted to isolate the firing pin when the firearm safety is in a safe position by rejecting signals received from the trigger. Support for this claim is found in claim 1 in the '056 patent as issued, in the specification at Column 1, Line 30 – Column 2, Line 13, and in the drawings.

New claim 56 claims a means for electronically detecting the presence of a round of ammunition within the chamber of the barrel. Support for this claim is found in claims 1 and 14 of the '056 patent as issued, and in the specification at Column 7, Lines 54-56, Column 8, Lines 3-15 and Column 11, Lines 32-57.

New claim 57 claims a firearm safety mechanism movable between a fire and safe position for placing the firearm in a nonoperative condition. Support for this claim is found in the drawings of the '056 patent and in claim 1 of the '056 patent as issued. Additional support is found in the specification at Column 1, Lines 48 – 49.

New claim 58 claims the system control including programming for performing an operational sequence to monitor and control the firearm, including initiating a sleep mode for the firearm. Support for this claim is found in the specification at Column 3, Lines 38-45 and Column 11, Lines 20-30.

New claim 59 claims the system control comprising at least a microprocessor, microcontroller, software, firmware, microcode, digital logic, analog logic, or custom integrated logic. Support for this claim is found in claim 7 of the '056 patent as issued and in the specification at Column 3, Lines 37-41.

New claim 60 claims an electronic firearm having a barrel, chamber, firing pin, a voltage supply supplying power to the firing pin for firing a round of ammunition, and a system control for monitoring the firearm and controlling the power supply to the firing pin, and including a means for isolating the firing pin from the voltage supply to prevent firing pin from receiving power from the voltage supply, and a trigger for signaling the system control to initiate firing of a round of ammunition. Support for this claim is found in claim 1 of the '056 patent as issued, as well as in the

drawings and in the specification at Column 1, Line 35 – Column 2, Line 27 and Column 7, Line 1 – Column 8, Line 57, Column 12, Lines 20 – 36.

New claims 61 claims a voltage increasing means for increasing voltage received from a voltage supply to a voltage sufficient to initiate the firing of the round of ammunition. Support for this claim is found in claim 1 of the '056 patent as issued in the specification at Column 1, Lines 56-57 and in Column 7, Line 54 – Column 8, Line 2, and in the drawings.

Previously submitted new claims 62 and 63, which claimed the switching means being controlled by the system control to prevent the firing pin from receiving power upon occurrence of at least one of a series of conditions, and a safety movable between a safe and fire position and an electronic safety connected to the safety for monitoring the safety and preventing power from being provided to the firing pin and preventing the system control means from detecting a trigger activation when in a safe position, have been cancelled and their language added to claim 60. Support for this is found in claims 1 and 38 of the '056 patent as issued and in the specification at Column 1, Line 51 – Column 2, Line 63, Column 3, Line 55 – Column 6, Line 67 and Column 11, Lines 8-30.

New claim 64 claims an indicator communicating with the system control. Support for this claim is found in claim 1 of the '056 patent as issued, in the specification at Column 2, Lines 27-28, Column 4, Lines 5 – 65, and Column 7, Lines 27-40, and in the drawings.

New claim 65 claims a firing pin having a forward conducting end for transmitting voltage to a round of ammunition and a rearward conductive area movable into a position to receive the voltage. Support for this claim is found in claim 1 of the '056 patent as issued and in the specification at Column 2, Lines 18-25 and at Column 9, Lines 14-22 and in the drawings.

New claim 66 claims an insulating coating about the firing pin of the firearm. Support for this claim is found in claim 21 of the '056 patent as issued, in the drawings and in the specification at Column 10, Line 35-61.

New claim 67 claims a means for isolating the firing pin of the firearm, including an insulative sleeve mounted about the firing pin. Support for this claim is found in claim 25 as issued in the '056 patent, in the drawings and in the specification at Column 10 Lines 35-61.

New claim 68 claims a means for electronically detecting the presence of a round of ammunition within the chamber of the barrel. Support for this claim is found in claim 1 and 14 of the '056 patent as issued, and in the specification at Column 7, Lines 54-56, Column 8, Lines 3-15 and Column 11, Lines 32-57.

New claim 69 claims a system authorization switch for controlling access to the firearm. Support for this claim is found in claims 28 and 29 of the '056 patent as issued, in the specification at Column 3, Line 63 – Column 4, Line 4 and Column 7, Lines 29-30 and in the drawings.

Previously submitted new claims 70 – 74 have been cancelled.

New claim 75 claims an electronic firearm having a barrel, chamber, firing pin, a voltage supply supplying power to the firing pin for firing a round of ammunition, and a system control for monitoring the firearm and controlling the power supply to the firing pin, and including a means for isolating the firing pin from the voltage supply to prevent firing pin from receiving power from the voltage supply, a trigger for signaling the system control to initiate firing of a round of ammunition and a means for electronically detecting the presence of a round of ammunition within the chamber of the barrel. Support for this claim is found in claims 1 and 14 of the '056 patent as issued, as well as in the drawings and in the specification at Column 1, Line

35 – Column 2, Line 27 and Column 7, Line 1 – Column 8, Line 57, Column 11, Lines 32-57 and in the drawings.

New claims 76 – 84 have now been cancelled.

New claim 85 claims a method of firing a round of electrically-initiated ammunition from an electronic firearm, comprising receiving a round of ammunition within a chamber, supplying power from a voltage supply for initiating firing of the round of ammunition, transmitting power to the round of ammunition through a conductive firing pin, powering a system control by said voltage supply, monitoring the firearm with the system control and controlling the firing of the round of ammunition with the system control, isolating the firing pin from receiving power supplied by the voltage supply and sending a signal to the system control to initiate firing of a round of ammunition as a trigger is activated. Additionally, new claim 85 further claims electronically detecting the round of ammunition within the chamber of the firearm. Support for this claim is found in original claims 1, 14 and 38 of the '056 patent as issued, as well as in the drawings and in the specification at Column 1, Line 30 – Column 2, Line 63 and Column 7, Line 1 – Column 8, Line 57, Column 11, Lines 32 – 57, Column 12, Lines 20 – 36, and in the drawings.

New claim 86 claims increasing voltage from the voltage supply in a voltage increasing means, and isolating the voltage supply from the voltage increasing means. Support for this claim is found in claim 38 of the '056 patent as issued and in the specification at Column 1, Lines 58 – 62, Column 3, Line 54 – Column 6, Line 48, and Column 12, Lines 20 – 35.

New claim 87 claims isolating the voltage increasing means from the firing pin. Support for this claim is found in claim 38 of the '056 patent as issued and in the specification at Column 1, Lines 58 – 63 and Column 12, Lines 20 – 35.

New claim 88 has now been cancelled.

New claim 89 claims detecting the viability of a round of ammunition within the chamber. Support for this claim is found in claims 15 and 39 of the '056 patent as issued and in the specification at Column 6, Lines 12 – 17 and Column 11, Lines 32 – 57.

New claim 90 claims performing an operational sequence to monitor and control the firearm, including initiating a sleep mode for the firearm. Support for this claim is found in the specification at Column 3, Lines 38-45; Column 5, Line 20 – Column 7, Line 6; and Column 11, Lines 20-30.

**B. Declaration in Support of Reissue**

Also attached with this amendment is a Supplemental Reissue Application Declaration signed by all of the named inventors, in support of the present application for reissue of the above-identified patent (37 C.F.R. §1.172). This Declaration supplements the previously submitted Declaration filed on June 3, 2002, with the previous Amendment in Reissue Application. Applicants respectfully request that this Supplemental Reissue Application Declaration be entered in this case.

**C. Drawing Objections**

New formal drawings, including the previously approved drawing corrections are submitted herewith. It is respectfully requested that the new formal drawings be entered in this case.

**D. Claim Objections/Rejections**

**1. Claim Objections.**

Applicants appreciate the review and comments by the Examiner regarding the foregoing proposed amendments to correct the cited objections and place the claims in condition for allowance.

**2. Claim Rejections under 35 USC §102**

Claims 73 – 74 were rejected in the Action of March 12, 2002 under 35 USC § 102(b) as purportedly being anticipated by *Harthcock*. Applicants further appreciate the telephonic discussions with and review by Examiner Johnson with regard to the rejection of claims 73 and 74, and although claims 73 and 74 have been canceled, Applicants still respectfully disagree with the Examiner's rejection of claims 73 and 74. Applicants respectfully point out that in the prior Official Action mailed July 31, 2001, claims 73 – 74 were not rejected in view of *Harthcock*. Claim 73, which was dependent on claim 70, was rewritten in independent form as submitted in the last amendment in the reissue application filed October 30, 2001, and generally describes a method of firing a round of electrically initiated ammunition from an electronic firearm, comprising:

Monitoring a sequence of operative conditions with a system control;

Sending a signal to the system control upon activation of a trigger;

Controlling and coordinating distribution of power to a firing pin, including isolating and preventing the firing pin from receiving power upon the occurrence of at least one condition selected from:

- a. the firearm being in a sleep mode;
- b. insufficient energy to initiate the firing of the round of ammunition;
- c. detection of voltage from a voltage supply below a predetermined level;
- d. detection of voltage from a voltage supply above a predetermined level;
- e. absence of a round of ammunition in a chamber of the firearm;
- f. lack of viability of the round of ammunition;
- g. inactivity of the firearm for a predetermined time;
- h. failure or malfunction of the system control or any component connected thereto;
- i. a system authorization switch being in an off position;
- j. a safety mechanism of the firearm being in a safe position;

Preventing the system control from accepting a signal from the trigger generated by a trigger pull when the safety mechanism of the firearm is in the safe position;

Transmitting power to the firing pin from the voltage supply for transmission to the round of ammunition; and



Applying power to the round of ammunition.

Applicants respectfully submit that each and every one of the claimed method steps recited by claim 73 – 74 are not taught or suggested by *Harthcock*, and thus *Harthcock* does not anticipate claims 73 – 74, as rewritten in independent form, under 35 USC § 102(b). For example, *Harthcock* fails to teach and disclose the step of preventing the system control from accepting a signal from the trigger generated by a trigger pull when the safety mechanism of the firearm is in the safe position. The Examiner has taken the position that the switch 83 of *Harthcock* performs this function of preventing the system control from accepting a signal from the trigger generated by a trigger pull when the safety is in a safe position. Applicants respectfully disagree.

Harthcock's trigger safety switch 83 does not function in the same fashion as a firearm safety, but rather appears to function to prevent the weapon from discharging if it is accidentally dropped or jarred and thus the trigger itself is not engaged. Also, as shown in Fig. 1, the switch 83 positioned in the center of trigger 82 is of such a size/configuration that when the trigger of the firearm of *Harthcock* is engaged or pulled, the trigger safety switch 83 necessarily will be automatically closed, i.e., simply by the operator placing their finger on the trigger to squeeze the trigger, whereupon a trigger signal is sent to the trigger circuit 85 to fire the weapon. In fact, as expressly stated at column 6, lines 48 – 50:

**Before the operator can apply pressure to the trigger 82, pressure must first be applied to the trigger safety switch 83.**

According to *Harthcock*, therefore, the trigger 82 cannot even be pulled (i.e. pressure exerted on trigger 82) until switch 83 is closed, such that once a trigger signal is generated by a trigger pull,

its transmission to the trigger circuit 85 is not and cannot be blocked by switch 83. Accordingly, the trigger safety switch 83 thus is not the same as the firearm safety in the present invention, wherein the system control is prevented from accepting a signal from the trigger when the trigger is pulled or engaged while the firearm's safety is in its safe position.

In the advisory action mailed June 27, 2002, the Examiner has indicated that the proposed amendments to claim 73 made in the amendment filed June 3, 2002, would require further consideration to determine patentability over the cited art, and therefore it appears that Applicants arguments regarding clarification of claim 73 have not been considered by the Examiner. Applicants still maintain that claim 73 is patentable over the cited art of *Harthcock*. However, in an effort to expedite the allowance of the present application, Applicants have now canceled claims 73 and 74, and thus it is respectfully submitted that the rejection of *Harthcock* is made moot by the cancellation of these claims. Applicant reserves the right to pursue these claims in any further continuation application based on the present reissue application.

### **3. Allowable Claims**

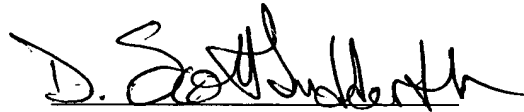
Claims 47 – 61, 64 – 69, 75, 85 – 87, 89 and 90 have been allowed. In addition, claims 1 – 9, 11 – 32, 34, 35, 37 – 43, 45, and 46 , which were objected to in view of minor informalities, have now been amended as suggested in the Official Action to correct the cited informalities and it is therefore respectfully submitted that claims 1 – 9, 11 – 32, 34, 35, 37 – 43, 45 – 61, 64 – 69, 75, 85 – 87, and 89 – 90 pending in this reissue application are in condition for allowance.

**E. Conclusion**

Applicants respectfully submit that the claims now pending in the present Application for Reissue Patent, including pending original claims 1 – 9, 11 – 32, 34, 35, and 37 – 40, as now amended, and pending new claims 41 – 43, 45 – 61, 64 – 69, 75, 85 – 87, and 89 – 90, are presently allowable. Applicants therefore respectfully request an early allowance of these claims.

Should the examiner have any questions or comments regarding the Application for Reissue Patent or the preliminary amendments made herein and above, the examiner is invited and requested to contact the undersigned attorney at the address and telephone number listed below.

Respectfully submitted,



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